Maximizing Weed Control In Citrus

Growers need to consider several factors when setting up a weed control program.

By Stephen H. Futch
shf@crec.ifas.ufl.edu

With decreasing prices for citrus, growers need to consider every opportunity to reduce production costs to aid in maintaining profitability. Currently, weed control is an expensive and major component of Florida citrus growers’ annual production costs. In the central Florida citrus production region, annual weed control costs account for approximately $220 or 28% of the total $778 annual production cost per acre. Other citrus production regions’ cost vary due to local conditions and management programs.

Weeds compete with the tree for water, nutrients, light, and space. Weeds may reduce crop yield and increase production and harvesting costs.

The objective of today’s weed management program is to suppress and control weeds so that they do not cause damage to the tree, impact yield, or impede grove and harvesting operations. Complete and total elimination of all weeds from the grove floor is not necessary nor warranted.

When developing a weed management program, growers must consider weeds present, stage of weed growth, material selection, amount of herbicide used, application site, method and timing, and herbicide band width. These items are discussed in detail below.

Identifying Type And Growth

Growers should survey their grove to determine if weeds are present. If present, efforts should be made to identify the weed type, i.e., grass, broadleaf, or sedge by name. By knowing the type of weeds present, the proper herbicide material(s) can be chosen to provide effective control. In many cases, preemergence herbicides which control grasses may not control broadleaf weeds or vice versa.

The stage of weed growth also affects the ability to control the weed with herbicides. Weeds in a seedling stage are the easiest to control, and weeds in a vegetative stage are actively producing stems, roots, and foliage. The rapid growth of both seedling and vegetative stages will aid in their control, as systemic herbicide movement within the plant is rapid. Plants that are mature or are in seed production tend to be more difficult to control due to reduced plant growth and slower movement of materials.

continued on page 18
Material Selection

When choosing an herbicide, growers need to be aware of and follow specific label restrictions and recommendations. An important step prior to the purchase or use of any pesticide is to read the label information.

Herbicides are generally classified as either preemergence or postemergence herbicides. Preemergence herbicides are those materials that are applied to the soil surface and must be applied prior to weed emergence. Preemergence herbicides generally do not control weeds which have emerged from the soil. Some preemergence herbicides may have limited postemergence activity on small seedling plants that are actively growing. To be effective, preemergence herbicides require incorporation into the soil by irrigation or rainfall to move the product into the zone of seed germination.

Postemergence herbicides are applied after the weed has emerged from the soil and generally lack soil activity or root absorption against those weeds that will emerge after the herbicide application. In many cases, the grower may choose to mix both pre- and postemergence herbicides together to improve weed control. However, consideration should be given to the size of the emerged weeds’ potential for blocking the placement of the preemergence herbicides to the soil surface.

The amount and type of herbicide applied to a given location varies with the age of the tree as well as its location (ridge vs. flatwoods). For most herbicides, a range of rates will be provided on the label. These rates will offer recommendations based upon tree age as well as soil conditions. Rates are usually lower for trees less than one year of age or where the soil is poorly drained. For recommended application rates of herbicides, go to http://edis.ifas.ufl.edu/CG013.

Application Site, Method, And Timing

Some herbicides have application restrictions that prohibit use in specific locations such as well-drained soils of the central Florida ridge area. Additional label restrictions may prohibit the intended use for specific tree age, with young trees receiving lower application rates than mature trees. Materials may also be classified as non-bearing which would prohibit use where a crop would be harvested within 12 months of application.

Application method is also important. When applying preemergence herbicides via an herbicide boom, complete uniform coverage of the soil surface is important for improved weed control. Factors that can affect uniformity of coverage include worn or damaged nozzle tips. As nozzles become worn, delivery rates increase and distribution patterns from the individual nozzles become distorted.

Additionally, weeds present will also affect spray coverage as these emerged weeds affect spray patterns as well as blocking the herbicide from reaching the soil surface when preemergence herbicides are being applied. The herbicide label may also state special application equipment requirements. These requirements may include special herbicide boom designs which minimize material drift or potential contact with tree foliage.

Timing of herbicide application is important. Preemergence herbicides should be applied to a relatively weed-free soil surface. If significant weed growth is present, consideration should be given to applying a postemergence herbicide, then followed by a preemergence application after weed growth has been reduced.